

## PROJECT DESCRIPTION

## I. GENERAL

This project involves the installation of a Traffic Signal Hazard Identification Beacon at the intersection of MD 108 (Olney Sandy Spring Road) and Brooke Road / Meeting House Road in Montgomery County. Additionally a pedestrian crossing shall be installed across the west leg of the intersection. MD 108 (Olney Sandy Spring Road) is assumed to run in a east-west direction.

## II. INTERSECTION OPERATION

1. The intersection is to operate in a three-phase, semi-actuated mode.

## NORMAL OPERATION

The signal display for the MD 108 (Olney Sandy Spring Road) approaches shall be flashing "Yellow". The signal display for the Brooke Road and Meeting House Road approaches shall be flashing "Red". The pedestrian signal heads shall be "DON'T WALK".

## PEDESTRIAN PHASE

The signal display for the MD 108 (Olney Sandy Spring Road) approaches shall be "RED". The signal display for the Brooke Road and Meeting House Road approaches shall be "Red". The pedestrian signal heads shall be "WALK" with countdown display.

## PRE-EMPT PHASE

The signal display for the MD 108 (Olney Sandy Spring Road) approaches shall be "RED". The signal display for the Brooke Road approach shall be flashing "RED". The signal display for the Meeting House Road shall be "RED". The pedestrian signal heads shall be "DON'T WALK".

2. A full-traffic-actuated, eight-phase controller with one (1) four channel, rack mount loop detector amplifier, electrical utility service equipment, L.A.U. and L.A.U. Panel, video interface equipment and all necessary equipment housed in the existing NEMA size "6" base-mounted cabinet shall be utilized.

## III. SPECIAL NOTES

1. The Contractor shall be responsible for terminating all signal cables, excluding interconnect, to the appropriate terminals and shall properly label each cable.
2. Disconnecting and splicing of interconnect cable shall be performed by Montgomery County Forces. The contractor shall run the interconnect cable into the base of each cabinet and properly tag the cable. Contact Dr. Wilhelm Derminassian at (240) 777-8795 seventy-two hours in advance of intended work.
3. The Contractor shall be responsible for delivering the video interface equipment to the Montgomery County Signal Shop. County Forces will complete the retro fit work in the existing cabinet.
4. All underground and overhead utilities shown on these plans are schematic only and may not be complete. The Contractor shall be responsible for notifying Miss Utility prior to construction so that all utilities may be located in the field. If the Contractor perceives that a conflict between the utilities and the traffic signal will occur, the Contractor shall notify the Project Engineer immediately so that the conflict may be resolved.

## EQUIPMENT LIST

## A. EQUIPMENT TO BE SUPPLIED BY S.H.A..

ITEM NO.	DESCRIPTION	QUANTITY
9086	Video detection interface equipment: 1-4 cameras (to be installed by signal shop).	1 EA
9571	Sheet aluminum signs to consist of: SPEC (W11-2) "Pedestrian Crossing (Symbolic)" / (W11-8) "Fire Station (Symbolic)", sign (96"x48"). R10-11B "NO TURN ON RED" sign, (30" X 30")	70 SF 2 EA 1 EA

## B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR

ITEM NO.	DESCRIPTION	QUANTITY
1001	Maintenance of traffic per assignment.	2 EA
2001	Class 2 Excavation.	4 C.Y.
2002	Test Pit Excavation	3 C.Y.
5003	Removal of existing permanent pavement line markings	245 L.F.
5005	12" white heat applied permanent preformed thermoplastic pavement marking.	300 L.F.
5006	24" white heat applied permanent preformed thermoplastic pavement marking.	75 L.F.
6002	Depress curb & gutter.	15 L.F.
6003	Standard type A combination curb and gutter 12" gutter pan 8" depth.	75 L.F.
6005	4" concrete sidewalk.	265 S.F.
8001	Furnish and install concrete for signal foundation.	6.5 C.Y.

## C. EQUIPMENT TO BE REMOVED

All existing signal equipment to be removed is to become the property of the Contractor.

The contact persons for District #3 (Montgomery County) are as follows:

Mr. Lee Starkloff  
Assistant District Engineer - Traffic  
Phone: (301) 513-7318

Mr. Wayne Mowdy  
Assistant District Engineer - Maintenance  
Phone: (301) 513-7304

Mr. Augie Rebish  
District Engineer - Utility  
Phone: (301) 513-7350

Mr. Richard L. Daff, Sr.  
Chief, Traffic Operations Division  
Phone: (410) 787-7630

## EQUIPMENT LIST (CONT.)

## B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR

ITEM NO.	DESCRIPTION	QUANTITY
8013	Pre-manufactured camera to controller (100' length) cable	2 EA
8021	Furnish and install 16" LED countdown pedestrian signal head	4 EA
8027	Furnish and install breakaway pedestal pole (10').	2 EA
8038	Disconnect, pull back and reroute cable (opticom & interconnect cable).	450 L.F.
8040	Detectable warning surface (truncated domes).	8 S.F.
8041	Remove and replace decorative brick sidewalk	110 S.F.
8044	Furnish and install No. 6 AWG stranded bare copper ground wire.	420 L.F.
8052	Furnish and install 3" schedule 80 rigid polyvinyl chloride - trenched.	45 L.F.
8053	Furnish and install 4" schedule 80 rigid polyvinyl chloride - trenched.	55 L.F.
8056	Furnish and install 4" schedule 80 rigid polyvinyl chloride - slotted.	125 L.F.
8067	Furnish and install electrical handhole.	2 EA
8070	Install overhead sign.	70 SF
8071	Video detector camera.	2 EA
8081	Furnish and install 27' mast arm pole and 70' mast arm.	1 EA
8082	Furnish and install 12-pair communication cable, self-supporting (overhead).	1215 L.F.
8091	Furnish and install ground rod 3/4" x 10'.	3 EA
8092	Furnish and install 8" vehicular traffic signal head section.	4 EA
8093	Furnish and install 12" vehicular traffic signal head section	16 EA
8099	Furnish and install electrical cable - 2 conductor (No. 14 AWG).	325 L.F.
8101	Furnish and install electrical cable - 5 conductor (No. 14 AWG).	500 L.F.
8102	Furnish and install electrical cable - 7 conductor (No. 14 AWG).	480 L.F.
8106	Pedestrian pushbutton and R10-4(1) sign. (Note: Sign to read "PUSHBUTTON TO CROSS MD 108".)	2 EA
Neg.	Detectable warning system (decorative brick truncated domes).	16 SF
Neg.	Remove curb and gutter.	70 L.F.
Neg.	Sawcut for roadway.	60 LF
Neg.	Remove ground mounted sign.	1 EA
Neg.	Remove overhead sign.	1 EA

## SEQUENCE OF OPERATION SHEET

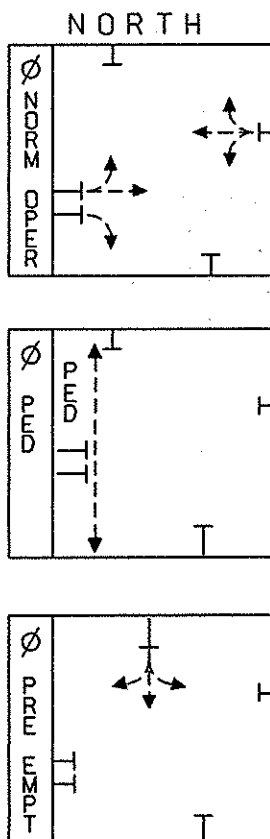
MD 108  
RUNS IN AN  
EAST-WEST  
DIRECTION

DIVISION OF OPERATIONS  
TRAFFIC ENGINEERING & OPERATIONS SECTION  
MONTGOMERY COUNTY, MARYLAND

INTERSECTION: MD 108 (OLNEY SANDY SPRING RD) AND BROOKE RD / MEETING HOUSE RD

NO. \_\_\_\_\_  
PHASING

SIGNAL NO.	SIGNAL HEAD INDICATIONS			
	3,4,7,8	1,2,5,6	9,10,11,12	13,14
TOTAL:	4	4	4	2
LEGEND	(R) 12"	(Y) 12"	(Y) 8"	(X) 12" or 16"
OPTICALLY LIMITED				
R RED				
Y YELLOW				
G GREEN				
ARROW				
FLASHING				



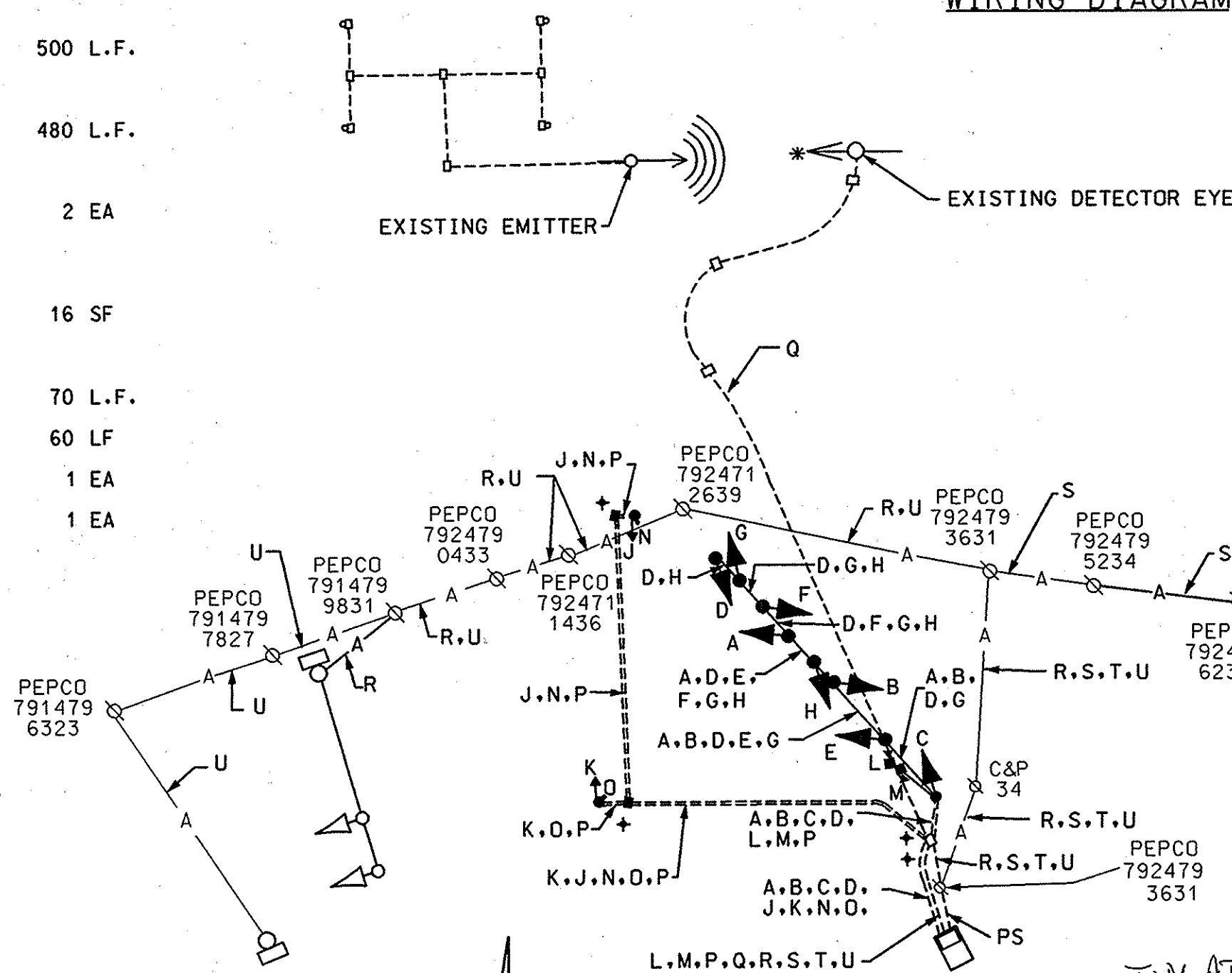
SIGNAL NO.	SEQUENCE OF OPERATION									FLASHER
	1	2	3	4	5	6	7	8	9	
1	DARK	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	DARK
2	DARK	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	DARK
3	FL/8"Y	12"Y	R	R	R	R	R	R	R	FL/Y
4	FL/8"Y	12"Y	R	R	R	R	R	R	R	FL/Y
5	DARK	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	DARK
6	DARK	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	DARK
7	FL/8"Y	12"Y	R	R	R	R	R	R	R	FL/Y
8	FL/8"Y	12"Y	R	R	R	R	R	R	R	FL/Y
9	FL/R	R	R	R	R	R	R	R	R	FL/R
10	FL/R	R	R	R	R	R	R	R	R	FL/R
11	FL/R	R	R	R	R	R	R	R	R	FL/R
12	FL/R	R	R	R	R	R	R	R	R	FL/R
13	DW	DW	DW	WK	FL/DW	DW	DW	DW	DW	DARK
14	DW	DW	DW	WK	FL/DW	DW	DW	DW	DW	DARK
PHASE	NORMAL	OPERATION	RED	CROSSING	RED	EMPT	RED	EMPT	RED	

## NOTES:

SUBMITTED: _____	CHECKED: _____	APPROVED: _____
IN SERVICE BY: _____	DATE: _____	TIME: _____

## EXISTING PUSHBUTTONS AND CONDUIT LAYOUT WITHIN FIREHOUSE

## WIRING DIAGRAM

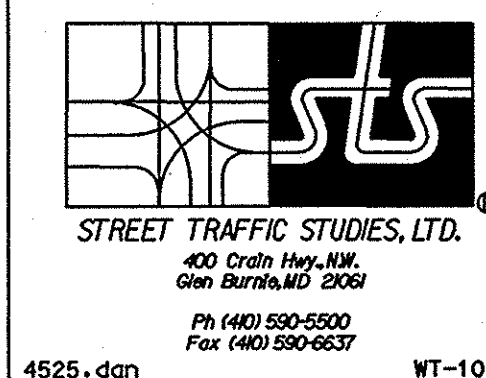


## WIRING KEY

- A B C D E } 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- F } 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- G } CAMERA TO CONTROLLER CABLE (100')
- H I J } 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- K } 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- L } 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- M } 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- N } 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- O } 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- P } STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
- Q } EXISTING CANOGA 4-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.) SHIELDED TO REMAIN
- R } EXISTING 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- S } EXISTING 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- T } REROUTED 12-PAIR VOICE GRADE INTERCONNECT CABLE (SELF SUPPORTING) FROM SHERWOOD RD
- U } 12-PAIR VOICE GRADE INTERCONNECT CABLE (SELF SUPPORTING)
- \* } USE EXISTING CANOGA 4-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.) SHIELDED AND COPPER GROUND WIRE
- ES } EXISTING UNDERGROUND POWER SERVICE BY PEPCO
- + } GROUND ROD

MARYLAND DOT - STATE HIGHWAY ADMINISTRATION  
Office of Traffic & Safety  
TRAFFIC ENGINEERING DESIGN DIVISION  
MD 108 @ BROOKE RD / MEETING HOUSE RD  
GENERAL INFORMATION SHEET

DRAWN BY: Rob Clochini	F.A.P. NO. AT185185	TS NO. 4267-8-6	SHEET NO. 3 OF 3
CHECKED BY: NONE	S.H.A. NO. MONTGOMERY	T.I.M.S. NO. G102	
DATE: 3/17/05	LOG MILE: 15010815.80		



4525.dgn

WT-10